Miracle on the Midway
Reviving the Apple II's first laserdisc game

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This is the story of a project that began in 1982 and finished in 2018.

In January 1982, I read an article in *Creative Computing* magazine that listed Adventures in Videoland, a type-in text adventure game by David Lubar for the Apple II. Lubar's game was based on *Rollercoaster,* a 1977 disaster/thriller flick starring George Segal and Henry Fonda. It came on the heels of the 1970s disaster-film craze that included *Earthquake, Airport!,* and *The Towering Inferno*. The game is loosely based on *Rollercoaster*: in both, a madman plans to blow up a thrill ride; in the game, it is your job to stop him. As text adventures go, Adventures in Videoland is a pretty simple game, consisting of 17 locations and easy puzzles. It can be solved by a first-time player in about 45 minutes.

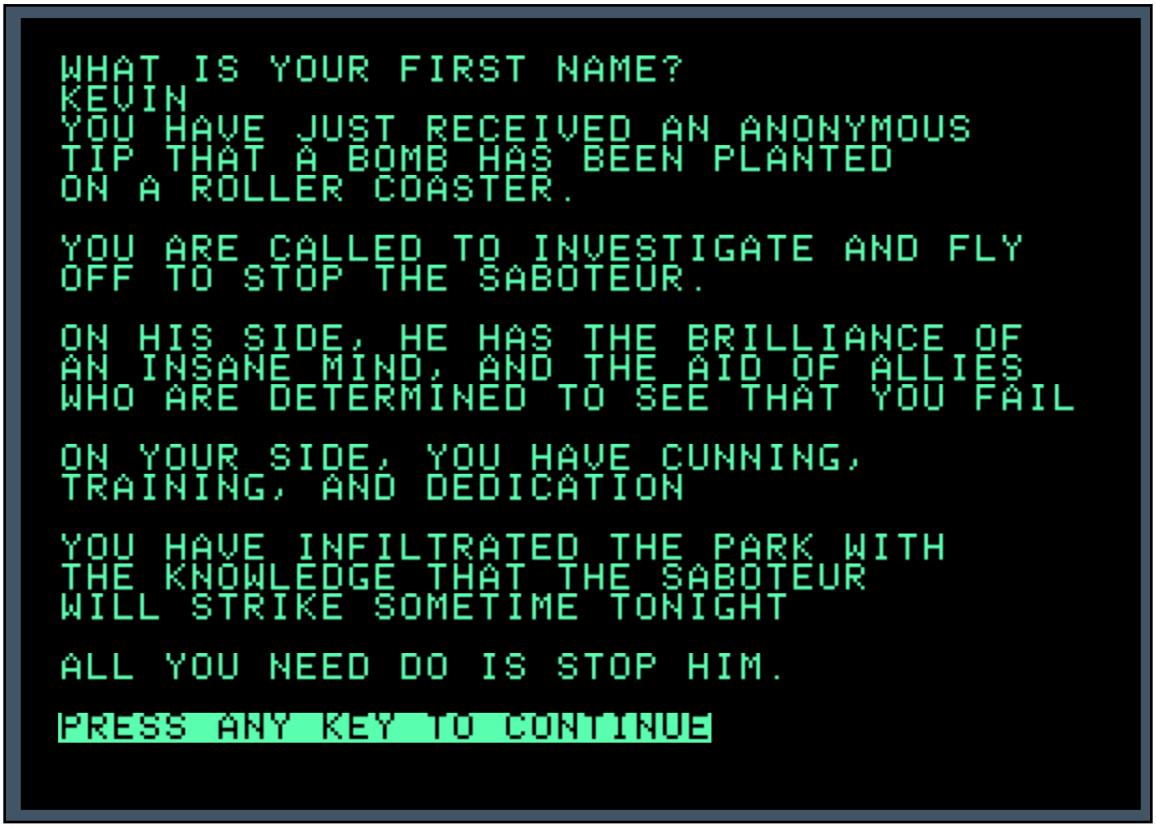
What made Adventures in Videoland unique was it required a specialized controller card connected to a laserdisc player. As you explore the theme park, scenes and stills from the laserdisc movie—the midway, the coaster, and more—are shown on the computer screen. It was a text-adventure game with video!

Going for a ride

Ten-year old me was familiar with Infocom and Scott Adams text adventures. I was less familiar with laserdiscs. The other articles in that issue described the wonder of instantaneous access to vast quantities of video information on the shining 12-inch platters.

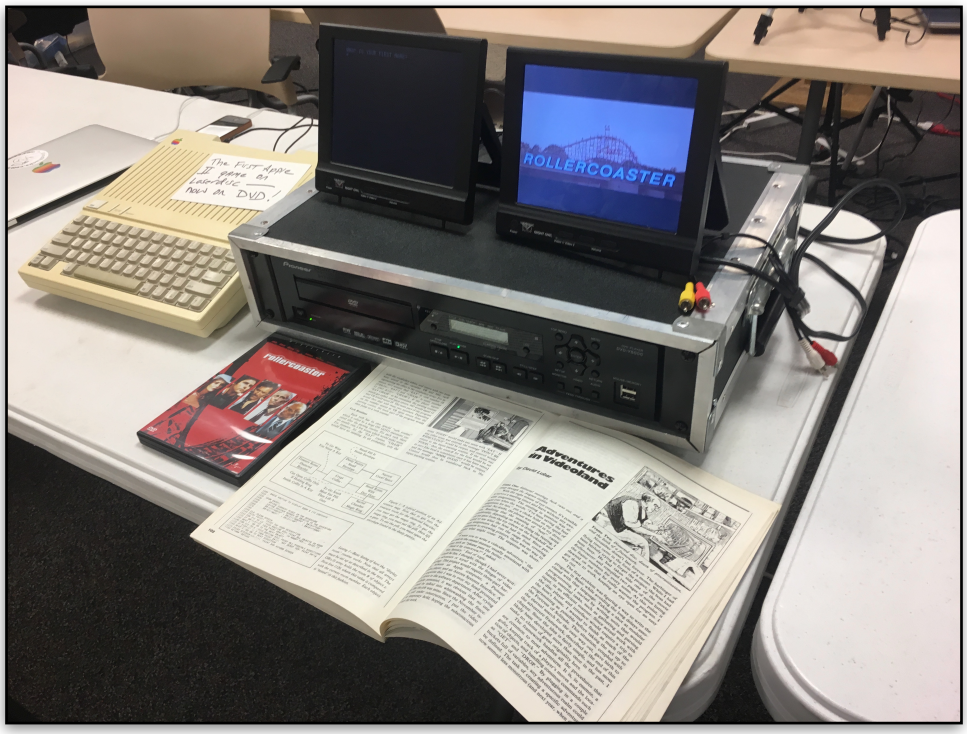
I read the Adventures in Videoland article and thought how cool such a setup would be. Step 1— learning about the system and wanting to try it—was complete. But at the age of 10, I could never achieve Step 2: affording such an extravagant computer/video setup.

Step 2 would come much later, in 2018: wait until that extravagantly expensive computer/video setup became pocket change due to its obsolescence. As I explored a local swap meet with laserdisc players and stacks of laserdiscs for sale, I remembered the Adventures in Videoland game and wondered if it would be possible to finally play it. I soon owned a laserdisc player and the *Rollercoaster* movie discs.


WHAT IS YOUR FIRST NAME?
KEVIN
YOU HAVE JUST RECEIVED AN ANONYMOUS
TIP THAT A BOMB HAS BEEN PLANTED
ON A ROLLER COASTER.
YOU ARE CALLED TO INVESTIGATE AND FLY
OFF TO STOP THE SABOTEUR.
ON HIS SIDE, HE HAS THE BRILLIANCE OF
AN INSANE MIND, AND THE AID OF ALLIES
WHO ARE DETERMINED TO SEE THAT YOU FAIL
ON YOUR SIDE, YOU HAVE CUNNING,
TRAINING, AND DEDICATION
YOU HAVE INFILTRATED THE PARK WITH
THE KNOWLEDGE THAT THE SABOTEUR
WILL STRIKE SOMETIME TONIGHT
ALL YOU NEED DO IS STOP HIM.
PRESS ANY KEY TO CONTINUE

In Lubar's 1982 configuration, one of the Apple II's slots held an Aurora Systems Omniscan laserdisc controller. The $275 device allowed the computer to control a Pioneer VP-1000 laserdisc player by simulating the function of the laserdisc's wired remote control. But in 2018, I didn't need to replicate that exact system: good news, since the Omniscan controller is rare. After the *Creative Computing* article was published, Pioneer released a line of serial-controllable laserdisc players, allowing any computer with a serial port to control the video player—jumping to a particular scene, doing freeze frame, and so on—without the specialized controller. Those players would become the foundation on which Dragon's Lair and other laserdisc arcade games were built.

I could connect my new old laserdisc player directly to an Apple II's serial port, but it would require a custom cable (for the player's oddball DB-15 connector) and some modifications to the program. Someone with soldering skills could build the cable themselves, details of which are in the laserdisc player's manual. I took the lazy way out and purchased one (from a company that seems to no longer exist.)



Adventures in Videoland on display at KansasFest 2018

Hardware in place, step 3 was to get the computer to talk to the laserdisc player. I hit a stumbling block here in trying to get an Apple II to do any serial communication at all. After lots of help from Twitter friends and two bad Super Serial cards in my IIe, I switched to my Apple IIc with its inbuilt serial ports, for reliable communication with

the video player. Even with a known good serial port, most of the documentation I found for doing serial communication in Applesoft involving PRINTing to the serial port with PR#2 didn't work. A 2009 thread in Usenet newsgroup comp.sys.apple2.programmer finally got me on the right track. I replaced PR#2 with careful POKEs to the "command" and "control" registers to take direct control of the serial chip.

Step 4 was to revisit the age-old joy of typing in a program from a computer magazine. Although scans of the issue were online, no ASCII versions were available. I typed and debugged the six-page Applesoft BASIC listing. Optical character recognition helped, but not much. None of the OCR software that I've found is optimized for computer program listings, with their dot-matrix fonts, not-quite-English BASIC statements, and importance of differentiation between the letter O and the number zero.

After more debugging (of my own typos and small problems with the published code), I finally had the game working! My lifelong dream of walking along the midway, defusing bombs, and saving lives had come true. There was also some joy in watching the roller coaster explode when I failed. There are a several ways to lose the game, some ending in spectacular—and sometimes so over-the-top-they're-funny—explosions.

Legacy

It's unknowable how many people played Adventures in Videoland when it was published. Although *Creative Computing* had a large circulation in 1982, how many people actually typed in the program? Because it required a specific, expensive combination of hardware, it's possible that the people who actually played it were limited to Lubar and *Creative Computing*'s publisher Dave Ahl. I felt like I must have been one of the few to play the game. I brought it to KansasFest 2018, where several more people were able to try it. Two of them successfully completed the game. I also brought the equipment and game to Portland Retro Gaming Expo, where more people were able to try it.

Published in late 1981 with a January 1982 cover date, Adventures in Videoland was the first laserdisc-based video game. Electro Sport's Quarter Horse, a coin-operated horse racing simulation, was released in early 1982, followed by the arcade game Astron Belt. Dragon's Lair, possibly the best-known laserdisc game, was released in 1983.

"I've seen the game credited as the first laserdisc-based video game," Lubar wrote to me in an email. "While I appreciate that, I'm not really sure I can take much credit for anything other than carrying out a coding task I was handed by my boss [publisher

David Ahl]... Dragon's Lair feels much more like an actual laserdisc-based game. The *Rollercoaster* project was really more of a proof of concept... First use of laserdisc cut scenes is closer to what I made."

"Either way, it is kind of cool to be a tiny part of one branch of gaming history," he wrote.

If you want to build this project yourself, you'll need the DiscoVision (constant angular velocity) version of *Rollercoaster* (the extended play, constant linear velocity version won't work) and a model of Pioneer laserdisc players with a serial port. (I used the LD-V2200.) I've put the code for the game on GitHub. If you'd prefer to watch a playthrough, mine is on YouTube.

And beyond

I could have called this project complete, but there was one more thing to do. Step 5 was to take the game beyond its original technology. Years after laserdiscs had gone out of fashion, Pioneer sold a serial-controllable DVD player and had the foresight to give it the same control protocol as the laserdisc players. After visits to eBay for the Pioneer DVD-V8000 DVD player and to Amazon for the DVD version of Rollercoaster, it was trivial to upgrade the game to DVD. That brought higher-quality video, faster seek time, and the ability to access the entire movie rather than only the first half hour. Pioneer also made a serial-controllable Blu-Ray player (model BDP-V6000) which I haven't tried but which promises yet more interfacing opportunities.

After I demonstrated Adventures in Videoland at KansasFest, Scott Lawrence took the concept further by hacking the game to run in a Web browser using an Applesoft BASIC simulator and an in-browser laserdisc emulator. Now one doesn't require any special hardware to play the game at http://umlautllama.com/savids/. He also blogged about the project.

My 36-year journey is finished, but it opens the door to more possible projects involving video and the Apple II. Adventure games or other types of games can be created by anyone using laserdisc, DVD, or Blu-Ray players. This is not limited to pre-made movies: you could burn a DVD with your own video or a CD-ROM with audio snippets that can be clipped together by the computer. The door to Videoland is open.

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